

DOCUMENT RESUME

ED 169 134

TM 008 738

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TITLE The Role of Standardized Tests in College Admissions, Credit and Placement.
PUB DATE 30 Oct 78
NOTE 10p.; Paper presented at the National Forum of the College Entrance Examination Board (New York, New York, October 30, 1978)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Achievement Tests; *College Entrance Examinations; Disclosure; *Educational Assessment; Equivalency Tests; *Evaluation Needs; Higher Education; Objective Tests; Publicize; Secondary Education; *Standardized Tests; Student Evaluation; *Testing Problems
IDENTIFIERS Alternatives to Standardized Testing

ABSTRACT

The basic rationale for using standardized tests for college admission, credit, and placement is that they are relevant and reliable. Such tests require the student to demonstrate the kind of competence that schools teach--the kind of competence required to work effectively in the modern world, to develop fully the human potential, and to enjoy life. Opponents of standardized tests often suggest alternatives such as more systematic documentation of the learning process, more extensive displays of student papers and projects, more frequent communication with parents. But these alternatives focus more on the instructional process than on the learning product. They seldom provide means for quantifying the amount that has been learned or for measuring pupil achievement in learning; the essential element is missing. The alternatives proposed are not effective substitutes for tests. Standardized tests are not perfect, but the main reason why they are opposed is not because of their imperfections. It is because they are the tools of accountability that might be applied to many who feel more secure when not being held accountable. But if we seek quality education, we must hold educators accountable; there must be public assessment of student achievement. (Author/GDC)

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The Role of Standardized Tests in
College Admissions, Credit and Placement*

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The tests used for selective admission to college, for placement in college courses, and for the granting of college credit all have some characteristics in common. They are paper and pencil objective tests, usually composed of multiple-choice items. They are prepared by specialists in test construction, usually in cooperation with scholars in the subject matter of the test. They are administered under standard conditions according to carefully prepared directions. They are scored by machine. The scores are aggregated, analyzed and reported by computers. While there are differences between the tests used for admission, for placement, and for credit, they all have this in common. They measure a student's achievement in some particular kind of learning.

In the speech of some educators, the words "standardized test" are spoken with a mixture of disdain, hostility and fear. Such tests are regarded as the tools of a big business bent on siezing control of education. They are said to be grossly flawed and woefully inadequate. They are said to cause great mental anguish and to do permanent psychic damage to many students. It is proposed that they should be banned, and that there should be a complete moratorium on standardized testing until some better means of assessment and evaluation have been developed.

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But the main cause of the concern over standardized tests that is sometimes expressed is not their imperfections. Professionally and carefully constructed, they are on the whole far, far better than the typical instructor-made test. The main concern is not over the possible harm they might do in rare instances. No impartial objective study of the alleged harm has ever been made. Most of the evidence comes from selected anecdotes, and some who on the testimony of such anecdotes would appear to have been most grievously harmed have gone on to careers of distinguished scholarship. If the concern should be that an occasional test author or test publisher makes money from a standardized test, that concern should be directed not just at standardized tests but at the whole American free-enterprise system. A standardized test that makes money does so not because it is a bad test, but because educators consider it to be better than most other available tests.

*Prepared for presentation at the 1978 National Forum of the College Entrance Examinations Board, October 30, 1978, in New York City.

No, the main cause of concern over the use of standardized tests is that they are external tests. They provide hard evidence of the achievements of students in learning, evidence independent of the possibly biased testimony of the teachers responsible for promoting that achievement. They are tools of accountability applied to many who feel more secure and comfortable when not being held to account. It is my belief that external assessments of student achievement are essential if we seek quality education for our young people.

Standards of quality in education in the United States seem to have slipped badly in recent decades. Employers complain of it. Taxpayers and parents of college students, dismayed by skyrocketing taxes and tuition, resent it. Those teachers and professors who are committed to excellence in education deplore it. The widely publicized decline in College Board scores simply confirmed what many had suspected.

Last August, a CBS Television special asked "Is Anyone Out There Learning?" The answer derived from testimony by pupils, parents, teachers and school officials seemed to be, "Not nearly as much as they could learn and should be learning." The first segment of the program identified deficiencies in school learning. The second examined possible causes. Are teachers sufficiently competent and dedicated? Are the instructional materials good enough? Is poor discipline in schools responsible? Are pupils watching too much television? The final section considered possible remedies such as more creative educational leadership, and more "relevant" courses.

The September 1978 issue of the Atlantic Monthly carried a lead article by Prof. Aiston Chase entitled "Skipping Through College". The focus was on declining standards in liberal arts education. Prof. Chase cited as indications of the decline, grade inflation, A's for all students in some courses regardless of their achievements, college policies of removing failing grades from student transcripts, and efforts by colleges and professors to attract students by lowering degree requirements and offering easier courses. He described how some colleges were attempting to halt and to reverse the decline by undertaking curricular reforms. That these efforts would succeed seemed doubtful to Prof. Chase.

I share those doubts. Neither he nor CBS seemed to me to have called attention to a crucial element in the educational process whose neglect has been a major cause of the decline and whose emphasis offers the best hope of a return to quality. That crucial element is systematic public assessment of student achievement in learning. The College Board aptitude and achievement tests provide one example of this kind of assessment. So, too, do the Iowa Tests of Basic

Skills, and of Educational Development. Clearly, we have the capability of making such assessments. But few schools or colleges have committed themselves to comprehensive assessments of the achievements in learning of their students.

Note the emphasis on public assessment. To be public, it must be:

1. based on a syllabus expressing a consensus of experts on the content to be sampled by the test;
2. obtained from a test whose questions, whose correct answers, and whose scoring rules are written and available for public inspection after the test has been used; and
3. followed by a report and statistical analysis of student scores on the test.

Most assessments of student achievement currently being made in our schools and colleges are not public in these ways. They are, instead intensely private, highly subjective, uniquely individualistic, and unsystematic. Except in the hands of a few outstanding teachers and professors who are firmly committed to excellence in learning, the typical methods of assessment offer little resistance to the manifold pressures and temptations to lower standards of achievement.

Striving for excellence in learning is hard work, occasionally unpleasant work for teachers and professors as well as for their students. None of them is likely to make the effort required unless the results of successful efforts are recognized and rewarded. A good society shows that it values the achievements of its members. Systematic public assessment of student achievement in learning makes possible the recognition of the successes of both the students and their teachers. Then the public--employers, selection committees, administrators, taxpayers, voters--can be counted on to provide the rewards.

The way back to excellence in learning is not via more dollars for schools and colleges. It is not via a new curriculum or new methods of teaching. It is not via research on the learning process. It is not via lower pupil/teacher ratios. It is via more comprehensive and systematic public assessments of student achievements in learning.

We will not find the way back if we think excellence in learning is undemocratic, or anti-humanistic, or too bruising to the self concepts of ordinary students. We will not find it if we insist on open admission regardless of preparation, if we encourage students to choose their own goals and work at their own pace, if we refuse to acknowledge failure, if we reject merit pay differentials for teachers, if we are more concerned with preventing dropouts than with producing competence. Choices must be made. Unless we give high priority to the achievement of quality in education, we are not likely to achieve it.

The task of restoring quality to education is a little like the task of learning to walk on one's hands. It is simple in principle but demanding in practice. It calls for commitment, competence and hard work. We have the competence among our better teachers. Whether we have sufficient commitment to quality, sufficient willingness to work as hard as the job will require remains to be seen. Any school or college whose teachers are good enough not to be threatened by demands for excellence, whose administrators elect to attract students by making the school good instead of by making it easy, whose leadership is strong enough to rally faculty support for excellence, can become a school providing quality education.

The job cannot be done with good intentions alone, or simply by trying hard. Special resources will be required. In the past, we have seldom allocated the talent, the time and the money that are required to do a good job of assessing student achievement in learning. We have been generous in spending to facilitate learning, but niggardly in spending to determine how much has been learned. If we really want to improve the quality of our product, we will need to provide much greater support for systematic public assessments of student achievement in learning.

But are the tests we know how to make and use good enough? Do they measure what needs to be measured? Do they measure it with sufficient accuracy? Are they equally fair to all students? Do they do more to promote learning than to discourage efforts to learn? Let us turn our attention to some of these questions.

The tests used to measure student achievement in learning, to determine the quality of an educational program, to select students for admission or to place them in appropriate courses, to award credit, or to certify competence, all measure achievement in learning something. Consider first the basic rationale for using tests of this kind.

We begin by affirming that the primary job of any school or college is to foster learning on the part of the students who attend. Each institution tries to do that job as well as it can with the resources available to it. Most of what a school or college tries to help its students to learn is useful verbal knowledge.

The term "knowledge" as it is used here implies much more than stored information. Information can be made public. Knowledge cannot. It is a private possession, built out of information by thinking for the purpose of understanding. A person's knowledge is a structure of relations among concepts. To say "I know"

means more than to say "I remember". It means "I understand," "I believe". Knowledge is never a gift. Information can be given, but a person must earn the right to say "I know" by making successful efforts to understand, to make sense out of the information given. A teacher can give students information. She cannot give them knowledge. That is something the students must create for themselves.

The knowledge colleges try to teach is largely verbal knowledge. Words and numbers are powerful tools not only for communication but also for storing information in books, on tapes and in memory, and for thinking. Most of the thinking we do consists of silent rehearsals of sentences we might utter. The peculiar excellence of human beings, the talent that sets us apart from all other creatures under heaven, and gives us dominion over them, is our ability to produce and to use verbal knowledge.

Words are only symbols. They are, as Senator Hyakawa said when he taught general semantics, maps to the territory of experience. Skill in using words is a special skill. The one most skilled in telling what to do is not always the one most skilled in doing it. And the craftsman is not always fluent and lucid in describing what he does or in explaining how he does it. Fine words can be used to conceal ignorance as well as to reveal knowledge; to deceive as well as to inform. But there is nothing any school or college can do that offers their students more promise of living full, rich human lives than to help them to develop structures of useful knowledge.

To answer objective test questions, students must make use of the verbal knowledge they possess. They must select and apply some of the understandings that constitute their structures of knowledge. Good objective test items test not for information, but for understanding. Take Archimedes Principle, for example. A good item does not test for it by asking a student to recall or to recognize the statement, "A body immersed in a fluid is buoyed up by a force equal to the weight of the fluid displaced." It might read instead, "An object weighing 500 grams is floating half submerged on the surface of water. How much additional downward force would be required to submerge it completely?" Instead of asking who discovered America, a good objective test item might ask how native Americans came to be called Indians.

Students answer objective test items by making choices. Some regard this act as too easy, too superficial, too fraught with chance to give any dependable indications of knowledge or ability. They are wrong. Each of us is what we are

today, for good or ill, partly as a result of opportunities or accidents for which we were not responsible, but to a much greater degree as a result of choices we have made. Shall I go to college or take a job? Shall I choose this college or that one? Shall I major in English literature or accounting? Shall I ask her to marry me tonight or think it over a bit longer? Shall I hang onto my present job or strike out for a new one?

Agnes Rogers wrote a poem that has something to say about the importance of choices. The title of the poem is "Lines to a Daughter--Any Daughter":

"One of the things that you really should know
Is when to say yes and when to say no
Girls who are slaving for Woolworth and Kress
Lament for the day when they might have said yes.
Others are crying at night apropos
Of moments when clearly they should have said no."

The poem concludes:

"No if he's misunderstood by his wife
Yes if you want him the rest of your life.
Remember my darling careers and caresses
Depend on your choices of nos and of yesses."

Voters and legislators; judges and juries; doctors, lawyers, merchants and executives; consumers, investors, quarterbacks and umpires show their competence or lack of it in the choices they make. So do examinees. So do all of us.

The problem of guessing on objective tests is commonly misunderstood and often exaggerated. Students who care enough to do their best guess only as a last resort. If the test is appropriate for the student to take there will be few occasions for blind guessing. Informed guesses will succeed in proportion to the amount of knowledge that is available for making them. If a test yields scores of high reliability as many objective tests do consistently, it is clear that guessing had little to do with determining the scores. Blind guessing would produce scores of zero reliability.

To sum up, the basic rationale for using objective tests is that they are relevant and reliable. The tasks in such tests require the student to demonstrate the kind of competence that schools spend most of their efforts trying to develop. It is the kind of competence required to work effectively, to develop human potential fully, to enjoy life.

The use of standardized tests for admission, placement, credit, and the measurement of achievement in learning generally, is sometimes criticized for

being too exclusively cognitive. What of the affective and psychomotor aspects of the "whole child"? Do standardized tests measure those kinds of learnings? No, they do not. They are limited to measuring the most important kind of learning schools and colleges seek to foster. Is there any affective learning teachers can promote that is not essentially cognitive? And are there not significant cognitive elements in learning to write or to type, to play a piano or a violin, to throw a curve or catch a forward pass?

Seldom do those who criticize standardized tests suggest any better method of measuring student achievement in learning. The alternatives that are proposed involve more systematic documentation of the learning process, more frequent displays of pupil's learning projects, more extensive communication with parents. They do not involve methods of quantifying the amount that has been learned, that is, of measuring achievement. They omit the essential element. The difference between high quality education and low quality education is essentially a difference in the amount that has been learned. Unless student achievement in learning can be measured somehow, expressions of concern for quality in learning are so much empty rhetoric.

During the 1920's, the community in which I lived and attended school was a favored educational environment. A succession of competent and cultured superintendents had staffed most of the classrooms with competent and cultured teachers. The principal aim of these teachers was to help us to develop some of the knowledge they had or knew about. They were, on the whole, firm but kind taskmasters. The high school offered courses in commercial and industrial education, and had well developed programs of physical education and interscholastic athletics. But the main emphasis of the instructional program was on general cultural education in English and mathematics and science and social studies and foreign languages. It was called the college preparatory program, though many who enrolled in it had no intention or prospect of going to college. They knew that the courses offered in it would require hard study and considerable homework. But they thought the results would justify the efforts.

In 1929, a new program of statewide testing of the educational achievements of high school pupils was commenced. It came about like this. The Dean of the College of Education at the University of Iowa observed that high school pupils were participating in all sorts of contests. There were basketball tournaments and track meets. There were debate tournaments and declamatory contests. There were music contests and one-act play competitions. "It seems," said the Dean, "that we have contests for almost everything high school students do except the

one thing they are supposed mainly to do. Schools were built to foster learning, but we have no contests for achievement in learning. Let's start one."

The task of carrying out the Dean's directive fell into the capable hands of a young professor, E. F. Lindquist. With the help of other University professors and capable high school teachers, he arranged for the construction of objective tests in each of the major subjects of study in high schools: algebra, geometry, physics, biology, English, history, and so on. On the appointed day, these tests were given to pupils in every participating high school in the state. The students who scored highest were invited to district contests where they took a new, somewhat more difficult test in their subject of competence. The winners of the district contests were invited to the state contest in Iowa City where yet another new and still more difficult test was offered. Those who scored highest on these tests were awarded University Scholarships.

West Waterloo did quite well in the 1929 academic contest, sending several students to the state contest. After school had opened in the fall, the principal arranged to drop in after school on teachers whose pupils had been tested the previous spring. To the algebra teacher, he might have said, "Miss Miller, I see that six of your pupils went on to the district contest and two reached the state. That's good. I'm proud of them and of you. I hope you can keep it up this year. If there is anything I can do to help, just let me know." To the physics teacher, he might have said, "Mr. Olson, we didn't get a single pupil into the district contest last year. Have you any idea why? Is there anything I can do to help you get it turned around this year?"

The teachers got the point that someone was watching and that somebody cared, indeed, a whole lot of somebodies in the school and out in the community. It worked. As long as the academic contests continued throughout the 1930's, West Waterloo was consistently one of the leaders in pupil achievement. Many other schools were consistently unsuccessful. To escape annual embarrassment, they dropped out of the contest, criticizing the tests for excessive emphasis on factual knowledge, criticizing the contest for diverting pupil attention from nobler educational goals.

Finally, Linquist yielded to the pressure. He abandoned the burdensome task of preparing three new forms of each test each year. The spring testing of achievement in learning was replaced by fall testing of guidance toward learning. The Iowa Test of Educational Development, two forms good for years, replaced the Iowa Academic Contest Tests, three forms, usable only once. I was sad to see this happen. Much as I respect the Iowa Tests of Educational Development, and value the information they provide, they cannot do the job that the Academic Contest Tests did so well for so many years. They cannot motivate and reward purposeful efforts

to foster pupil achievements in learning. The spring tests are gone. So is the principal who used them so effectively in West Waterloo. The push for excellence there is gone, too.

Perhaps it may return. In this eighth decade of the twentieth century, public pressure for the testing of pupil achievements is greater than ever before. It has reached the legislatures in two-thirds of the states which have enacted, or are in the process of enacting competency-based testing programs. Teacher unions are likely to resist the passage or the implementation of such laws. They may succeed. But if they frustrate the public will in this, they may find it hard to gain public support for the millages they need to keep salaries up. One way or another, they will be held accountable for the educational achievements of their pupils. Good teachers will welcome the challenge. Poor teachers may try to hide from it. But ultimately, if public education in the United States is to prosper, there must be public assessment of student achievements in learning. Standardized tests in public schools and colleges are essential tools in that public assessment.